

A revision of the Mygalomorph spider family Dipluridae in New Caledonia (Araneae)

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ABSTRACT

The genus *Stenygrocerus* is revised. It includes the type species, *Macrothele silvicola* Simon, 1889, and five new species: *S. alphoreus*, *S. franzi*, *S. kresta*, *S. recineus*, and *S. simoni*. *Stenygrocerus australiensis* Raven, 1984 and *S. annulata* Raven, 1981 are transferred to a new genus, *Caledothele*, to which 5 new species from New Caledonia are

added: *C. aoupine*, *C. carina*, *C. elegans*, *C. tonta*, and *C. tristata*. Minute litter dwelling spiders of the genus *Masteria* are reported for the first time from New Caledonia. Two new species, *M. franzi* and *M. kaltenbachii*, are described. Brief cladistic and biogeographic comments are made.

RÉSUMÉ

Le genre *Stenygrocerus* est révisé. Il inclut l'espèce-type, *Macrothele silvicola* Simon, 1889, et cinq espèces nouvelles : *S. alphoreus*, *S. franzi*, *S. kresta*, *S. recineus*, et *S. simoni*. *Stenygrocerus australiensis* Raven, 1984 et *S. annulata* Raven, 1981, sont transférées dans le genre *Caledothele* n. g. qui inclut aussi cinq espèces nouvelles : *C. aoupine*, *C. carina*,

C. elegans, *C. tonta*, et *C. tristata*. Le genre de micro-araignées de litières *Masteria* est signalé pour la première fois de Nouvelle-Calédonie où il est représenté par deux espèces nouvelles : *M. franzi* et *M. kaltenbachii*. Les relations cladistiques et biogéographiques des taxons décrits sont brièvement discutées.

The diplurid fauna of New Caledonia has long been considered to include only *Stenygrocerus* (see review RAVEN & CHURCHILL, this volume). RAVEN (1984) described a new species, *Stenygrocerus australiensis*, from southern Australia that was clearly allied to its New Caledonian congeners in lacking tibial spurs. In 1988, with funding from an Australian Research Council grant, I returned to New Caledonia in search of more males of *Stenygrocerus*. I also sought mature material of the tiny, litter dwelling diplurid genus *Masteria*. To that time, vials of immature material identified as *Stenygrocerus* had yielded the first material, albeit immature, of *Masteria*. Despite returning to specific localities and concentrating the search on litter material, no further *Masteria* were found. In completing the study of *Stenygrocerus*, it was evident that a third genus was present. A male from Rivière Bleue confirmed that. While I was finalizing this paper, I sought further material of *Stenygrocerus* from the Austrian Expedition to New Caledonia (in 1965) deposited in Naturhistorisches Museum, Wien. Dr Jürgen GRUBER kindly searched, found, and restored recent material from that and another collection of Professor Herbert FRANZ in his care. Those two collections contained a male and female of *Masteria* and another male of *Stenygrocerus*. Without his much appreciated efforts, this paper would not be so exciting.

Family DIPLURIDAE

Subfamily EUAGRINAE Raven

Genus *STENYGRERCUS* Simon

Stenygrocerus Simon, 1892 : 185. Type species by original designation, *Macrothele silvicola* Simon, 1889; *Stenygrocerus* Hogg, 1902 : 270; *Stenygrocerus* Rainbow, 1911 : 121; *Stenygrocerus* Berland, 1924 : 160, 174; *Stenygrocerus* Bonnet, 1958 : 4157; *Stenygrocerus* Main, 1960 : 30 (= *Cellogrus*); 1955 : 38; *Stenygrocerus* Krütscher, 1966 : 374; *Stenygrocerus* Raven, 1981 : 228; Raven, 1984 : 63; Raven, 1985 : 53, 54, 73, 78; *Stenygrocerus* Roewer, 1942 : 207; *Stenygrocerus* Brignoli, 1983 : 121, 670; *Stenygrocerus* Platnick, 1989 : 81.

Diagnosis : differs from *Australothele* in the form of the spur on male tibia I, in the absence of the metatarsal (leg I) thorn in males, and the spiralled double (2+2) stalked spermathecae of females. It differs from *Caldothele* in having

MATERIALS AND METHODS

Descriptions : eyes are abbreviated as follows : AME, anterior median eyes ; ALE, anterior lateral eyes ; PME, posterior median eyes ; PLE, posterior lateral eyes ; MOQ, median ocular quadrangle. All measurements are in millimetres, except eye measurements which are given as the integral number of ocular units, or interspaces which are expressed as diameters of an AME. Abbreviations and terms are standard for the Araneae, except that in spine counts the letter "w", for weak, follows counts of spines that are thicker than setae but hardly qualify as spines. Spinnerets are abbreviated as PMS (posterior median spinnerets) and PLS (posterior lateral spinnerets). Figures are drawn from the dorsal left leg or palp as viewed prolaterally except when the limb on that side is damaged or absent.

Institutional acronyms : AMNH, American Museum of Natural History, New York ; QMB, Queensland Museum, Brisbane ; MNHN, Muséum national d'Histoire naturelle, Paris ; NHMW, Naturhistorisches Museum, Wien ; NHB, Naturhistorisches Museum, Bâle.

spurs on both first and second tibiae and also in the spermathecae being in the 2+2 arrangement, with each lobe spiralled apically before terminating as an enlarged vesicle. *Stenygrocerus* generally have drab unmarked or weakly patterned abdomens (dorsally) and lack leg annulations.

Description : eight eyes in rectangular group. Caput low, fovea transverse. One, rarely two pairs of foveal bristles. Abdomen of sombre colours ; legs without annulations. Clypeus present, narrow. Serrula broad. Basal region of cheliceral furrow with one or two small teeth, not granules. Metatarsal preening combs usually present on legs I-IV ; 2 pairs of combs on I, II

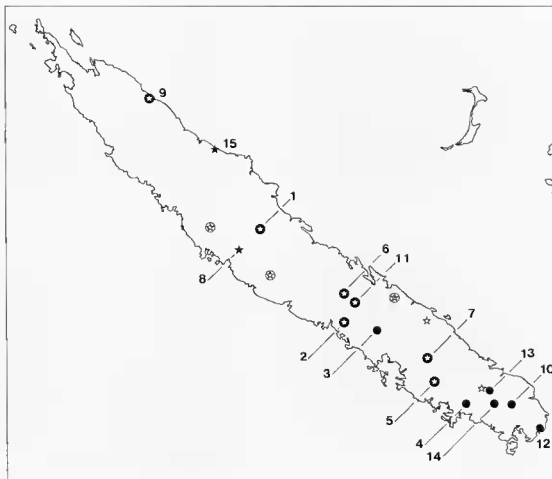


FIG. 1. — *Dipluridae* type localities: 1 Aoupinié; 2 La Foa; 3 Mt Do; 4 Mts Koghis; 5 Mt Mou; 6 Mt Table Unto; 7 Mt Tontou; 8 Néklitj; 9 Oubatche; 10 Ouénarou; 11 Plateau de Dogny; 12 Port Bosé; 13 Rivière Bleue; 14 Rivière des Pirogues; 15 Tiouandé. Distribution of *Stenogyrocercus* (circle), *Caledothele* (white star within black circle), and *Masteria* (star). Locations represented by adults are solid (black) and juveniles are hollow

and sometimes III. Spines few but present on all tarsi. Males with coupling spurs on tibia I, II; tibia I incrassate, medially spinose with deep lateral grooves; metatarsi I, II with proximal excavation; metatarsi I with second excavation forming ledge. Tibia II with distal conical spur and megaspine. Palpal bulb pyriform. Spermathecae 2+2; all stalks basally straight, medially spiralled, with distally enlarged receptaculum. Trichobothrial bases corrugiform. Australothelone crescent present, distinct.

Distribution : southern New Caledonia.

Web : the web of *Stenogyrocercus* is very similar to that of the Australian euagrine genus *Nami-rea*. It consists of conspicuous white curtains of silk on embankments. The "burrow" is silk lined and usually follows cracks in soil, hollow rotted roots, or the spaces formed between rocks. In contrast, the web of *Caledothele australiensis* is a filmy white web made under fallen bark and is not evident until the bark is moved. Webs like that of *Stenogyrocercus* were noted at an altitude of 700-900 m on Mt Panié but no spiders were found. The location of webs in a complex of roots, rocks, or fallen logs makes collection of these spiders very difficult and time consuming.

Habitat : known from montane and coastal rainforest and heath.

Remarks : using material attributed to *Stenogrocerus* by BERLAND (1924), RAVEN (1981) described a new species of *Stenogrocerus* based upon a male from Oubatche and three females from La Foa. He also diagnosed the genus according to those data. RAVEN (1984) added a new species, *S. australiensis*, from southern Australia that was consistent with his earlier diagnosis. To that point, the only male dipterid known from New Caledonia had no spurs. Recently, male dipterids from New Caledonia were found to have spurs on legs I and II, like their Australian sister genera. Those males were clearly conspecific with sympatric females with the 2+2 form of spermathecae. RAVEN (1981) did not figure spermathecae of either species reviewed at that time but reported both were apically divided lobes. The females from La Foa do have that condition. However, in the type of *Macrothele* (= *Stenogrocerus*) *silvicola*, the spermathecae are completed divided into the 2+2 form (fig. 37). Hence, the concept of *Stenogrocerus* is modified. A new genus is proposed for the spurless species in Australia and New Caledonia.

Species included : *Macrothele silvicola* Simon, 1889; *Stenogrocerus alphoreus* n. sp.; *Stenogrocerus franzi* n. sp.; *Stenogrocerus kresta* n. sp.; *Stenogrocerus recineus* n. sp.; *Stenogrocerus simoni* n. sp.

Cladistics and Biogeography : two synapomorphies are proposed for the species of *Stenogrocerus* : the specific modification of the tibial spur on leg I, and the 2+2 spermathecal arrangement. In the presence of a conical spur on tibia II, *Stenogrocerus* shows unequivocal relationships with the Australian genera *Australothele* and *Namirea*. Of other euagrines with spurs on tibia I, only *Australothele* has a spur in any way similar. I propose therefore that *Stenogrocerus* is the sister group of *Australothele*. That hypothesis creates a pair of strong, congruent but disruptive hypotheses concerning the affinities of the land masses, New Caledonia and Australia. Both contain genera which are more closely related to cofamilial taxa between the countries than within. One hypothesis then is that, on rifting

away from Australia, New Caledonia carried with it *Caledothele* and a genus like *Australothele*. The origin of *Namirea* was probably prior to that.

The affinities of *Caledothele* must then be questioned. I find nothing to falsify RAVEN's (1985) hypothesis that the absence of any tibial spur is apomorphic in the Australian taxa. Certainly, the three spurred taxa, *Cethegus*, *Carrai*, and *Caledothele* occur in complementary areas. At present, the biogeographic disjunction of *Caledothele* suggest that it is the sister group of *Carrai* plus *Cethegus*. Observations on the mating of spur-less Australian Euagrines may test the hypothesis that the loss of the spur is apomorphic and provide data to break the trichotomy.

The relationships between species of *Masteria* continue to challenge both vicariant and dispersal hypotheses. RAVEN (1979) observed that males of the Australian *M. toddae* and Central American *M. spinosa* (Petrunkevitch) are very similar in the morphology of the palp and tibial spur. To that group I now add *M. franzi* which differs in lacking the teeth on the unpaired claw on a common tubercle. In contrast, the male from Ponape listed by ROEWER (1963) as *Masteria hirsuta* lacks a paraembolic apophysis as does *Masteria colombiensis* Raven, 1981. It is here hypothesized that the presence of a paraembolic apophysis in *Masteria* is a synapomorphy for the group and that its absence is apomorphic. However, neither that nor the reverse polarity allow the proposal of a plausible biogeographic hypothesis. Both require the postulation of a common region in the trans-Pacific excluding New Caledonia. Males from Fiji and Samoa will help resolve the question. Despite listing *Masteria* from Fiji, MAIN (1982) incorrectly stated of the (barychelic *Idioctis*) that Samoa was "the only oceanic island to harbor a mygalomorph" (p. 588).

***Stenogrocerus silvicola* Simon, 1889**

(fig. 37)

Macrothele silvicola Simon, 1889 : 245; *Stenogrocerus silvicola* Simon, 1892 : 185; [*Stenogrocerus silvicola* Berland, 1924 : 160, 174]; *Stenogrocerus silvicola* Raven, 1981 : 228.

Type material : holotype ♀ : New Caledonia, MNHN 9420.



FIGS 2-9. Scanning electron micrographs. *Stenogyrocercus summi*, male paratype, Ouénarou, ventral right leg I. 2, 3 : tibia and metatarsus proteral view ; 4, 5, 6, : tibia, axial view showing spinose mound ; 7 : tibia and metatarsus, ventral view ; 8 : metatarsus, ventral view showing two ledges ; 9 : tarsal organ.

Type locality : " New Caledonia " (see Remarks).

Diagnosis : differs from all other species in the disproportionately large apical receptacle to the spermathecae and the shorter stalks, and from *S. simoni* in that the stalks on each side do not join before discharging.

Remarks : the spermathecae and abdominal pattern are similar to those of *S. franzi*. However, the spermathecae are distinctly different. Hence, I suggest that the type-locality is in southern New Caledonia, near Mts Koghis, and is possibly Nouméa itself.

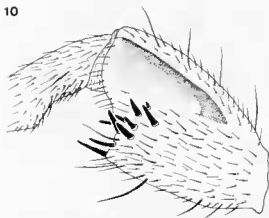
Material examined : only the type.

***Stenygrocerus alphoreus* n. sp.**
(figs 1 & 27, 28 & 35; table 1)

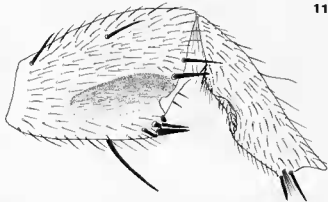
Type material : holotype ♀ : Port Boisé, slopes of embankment near wharf, 25.X.1988 (R. J. RAVEN), QM s 15519.

Diagnosis : differs from *S. franzi* in the stouter broader spermathecal stalks and from *S. silvicola* in the smaller apical receptaculum. Females. About 12-15 teeth on paired claws of legs I, IV ; one tooth on unpaired claw of leg I. Abdomen dorsally brown with paired pallid spots ; legs without annulations. Two pairs of preening combs on metatarsi I, II. Spermathecae four, each a pair of long lobes, both basally straight with two to three spirals below apical enlarged vesicle.

10



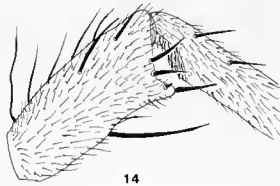
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FIGS 10-14 — *Stenygrocerus franzi*, holotype male. 10, 11 : tibia and metatarsus I, 10 : retroventral view ; 11 : prolateral view ; 12 : tibia I, ventral view ; 13 : palpal tibia, cymbium, and bulb, prolateral view ; 14 : tibia and metatarsus II, prolateral view

Description : holotype female QM s 15519. Carapace 4.17 long, 3.29 wide. Abdomen 4.31 long, 2.69 wide. Total length, 10.

Colour in alcohol. Carapace yellow brown with brown margins, paired brown triangular areas on lateral caput and brown areas on interstitial ridges, chelicerae, sternum, maxillae, labium, coxae, trochantera, and legs yellow brown, no annulations. Abdomen dorsally dark brown with large irregular partially pallid area anteriorly and four pairs of fine slit-like white bands; ventrally uniformly dark brown with orange booklung covers; spinnerets dorsally yellow brown, ventrally brown; PLS with darker joints.

Carapace. Pilosity : generally with fine wavy black hairs; striae distinct, glabrous; bristles on margin longest medially and posteriorly, elsewhere short; 3 fine bristles on clypeal edge and one in front of AME. Fovea short straight. Clypeus 0.08 wide. One pair of foveal bristles.

Eyes. AME on pronounced mound. Group occupies 0.35 of head-width. Front row slightly procurved; back row recurved. Eye group front width, back width, length, 33 : 36 : 18. MOQ front width, back width, length, 18 : 25 : 14. AME : ALE : PME : PLE, 8 : 11 : 6 : 9. Eye interspaces : AME-AME, 0.4; AME-ALE, 0.1; ALE-PLA, 0; PME-PMF, 1.8; PME-PLA, 0.1; ALE-ALE, 2.

Chelicerae. With long curved bristles on anterior slope, laterally with two lines of short setae. Furrow promargin with 6 large intermixed with 8 smaller teeth, hasomesally 2 small teeth and 10-15 fine granules.

Labium 0.50 long, 0.88 wide. Maxillae 0.83 long in front, 1.17 long behind, 0.75 wide. Sternum 2.17 long, 1.88 wide.

Legs. Femoral spines are long thick bristles; tibial spines curved.

TABLE 1. — Leg measurements of *Stenycrocercus alphoreus*, holotype female.

	I	II	III	IV	Palp
Femur	2.58	2.42	2.50	3.00	1.75
Patella	1.67	1.67	1.42	1.75	1.08
Tibia	1.75	1.58	1.67	2.25	1.25
Metatarsus	1.50	1.67	2.25	3.00	—
Tarsus	1.08	1.08	1.17	1.42	1.17
Total	8.58	8.42	9.01	11.42	5.25

Spines. Leg 1, fe d3w, pa p4w, ti p1, v5, me v5; leg 2, fe d4, pa p3w, ti p1, d1, v5, me p2, v6, ta v1; leg 3, fe 0, pa p2, r2, ti p2, r2, v5, me p3, r3, v4, ta v2; leg 4, fe 0, pa p2, r2, ti p3, r3, v5, me p4, r4, v6 ta v3; palp, fe d4w, pa 0, ti p1 v7, ta v6.

Claws. 12-15 (I) to 6-7 (IV) teeth in S-shaped row on paired claws; 1 (I) to 3 (IV) fine teeth on third claw; about 12 teeth on palpal claw.

Trichobothria in two rows, each of 7 for two-thirds of tibiae; about 9 on metatarsi in straight row; about 6 filiform in straight row on tarsi.

Spermathecae four, each a pair of long lobes, both basally straight with two to three spirals below apical enlarged vesicle.

Spinnerets. PMS 0.92 long, 0.17 wide, 0.83 apart, and about 0.67 of basal PLS in diameter. Basal, middle, apical, total segments of PLS, 1.67, 1.42, 1.58, 4.67 long, respectively.

Etymology : the specific epithet is an arbitrary combination of letters.

Distribution and habitat : known only from rainforest at the type locality, Port Boisé, the most southerly rainforest in New Caledonia. The spiders were taken on high embankments where many webs were evident. However, the burrows, which followed cracks in the soil or rotted plant roots, could not be traced back to the spider because the dry friable soil fell into the excavation.

Material examined : only the type.

Stenycrocercus franzi n. sp.
(figs 1, 10-14 & 34; tables 2, 3)

Type material : holotype ♂, Mts Koghis, sifted from litter and rotten wood, 30.VIII.1970 (H. FRANZ), NHMW; allotype ♀ : Mts Koghis, 12 III.1978 (E. I. SCHLINGER), AMNH.

Diagnosis : males differ from *S. simoni* in the shape of the tibial apophysis and disposition of spines; in females all spermathecal receptacula discharge separately.

Females. About 12-15 teeth on paired claws of legs I, IV; one tooth on unpaired claw of leg I.

Abdomen dorsally brown without distinct paired pallid spots; legs without annulations. Two pairs of preening combs on metatarsi I, II. Spermathecae two separate lobes on each side, each lobe basally straight, slender, distally spiralled for one to two twists with apical ovoid expansion.

Description: holotype male NHMW. Carapace 4.19 long, 3.38 wide. Abdomen 4.06 long, 2.81 wide. Total length, 9.

Colour in alcohol. Carapace, chelicerae and legs orange brown; leg annulations absent. Abdomen dorsally faded, pallid.

Carapace. Fine gray hairs on interstitial ridges, on caput and along margins; a brush of hair and bristles behind PME; 2 long bristles on clypeal edge, 4-6 long erect in front of AME. Fovea short, shallow, transverse, recurved. Clypeus narrow. One pair of foveal bristles. Striae distinct.

Eyes. Tubercle distinct. Group occupies 0.35 of head-width. Front row procurved; back row distinctly recurved. Eye group front width, back width, length, 50 : 53 : 31. MOQ front width, back width, length, 27 : 40 : 30. AME : ALE : PME : PLE, 14 : 19 : 15 : 17. Eye interspaces : AME-AME, 0.4; AME-ALE, 0.1; ALE-PLE, 0; PME-PME, 1.3; PME-PLE, 0.1.

Chelicerae small, rounded with brush of bristles and few longer emergent bristles. Furrow promargin with 8 large mixed with 10 small teeth, basomesally with one tooth.

Labium 0.31 long, 0.78 wide. Labiosternal suture a wide shallow groove. Maxillae 1.03 long in front, 1.09 long behind, 0.75 wide. Sternum 1.68 long, 1.88 wide.

Legs. All femora with 3-5 long curved setae dorsally. Tibia I very incrassate with pro- and retro-lateral mounds. Proventral mound with 3 thorn spines, dorsally a semicircular depression and two longer curved spines distally. Retrolateral tibia I with long distinct glabrous groove widest distally and extending from one-third from base. Below groove is rounded mound with cluster of short strong spines. Two tibial mounds quite dissimilar; pro-lateral mound larger. Proximal ventral metatarsi I incrassate with two rounded ledges. Tibia II less incrassate with distal conical spur bearing long straight megaspines and small basal thorn spine pro-laterally. Proximal ventral metatarsi II excavate for proximal one-quarter and clad with numerous short curved spine-like setae.

TABLE 2. — Leg measurements of *Stenogrocerus franzi*, holotype male.

	I	II	III	IV	Palp
Femur	3.22	3.19	3.00	3.56	2.19
Patella	2.00	1.91	1.72	2.03	1.22
Tibia	2.25	2.09	2.00	2.66	1.50
Metatarsus	2.06	2.25	2.75	3.63	—
Tarsus	1.69	1.63	1.63	1.84	0.75
Total	11.22	11.07	11.10	13.72	5.66

TABLE 3. — Leg measurements of *Stenogrocerus franzi*, allotype female.

	I	II	III	IV	Palp
Femur	2.92	2.83	2.75	3.42	2.17
Patella	1.92	1.83	1.67	1.92	1.25
Tibia	2.08	1.92	1.83	2.67	1.42
Metatarsus	2.08	2.08	2.67	3.50	—
Tarsus	1.25	1.25	1.33	1.50	1.50
Total	10.25	9.91	10.25	13.01	6.34

Spines. Leg I, fe 0, pa 0, ti p3, v6 + cluster of about 12 spines, me v3; leg 2, fe 0, pa p2w, ti p3 v6, me p2, v6 + megaspine and thorn, ta 0; leg 3, fe 0, pa p2, r2, ti p3, r3, v5, me p4, r4, v5, ta v1; leg 4, fe 0, pa p2, r1, ti p3, r3, v6, me p5, r4, v6, ta v2; palp, fe 0, pa 0, ti p1, v1. Metatarsal preening combs : I of 2-4 setae pro- and retroventral on I, II, III, retroventral on IV.

Claws. 10-12 (I), 8 (IV) teeth in S-shaped row on paired claws, 1 (I) to 3 (IV) teeth on third claw.

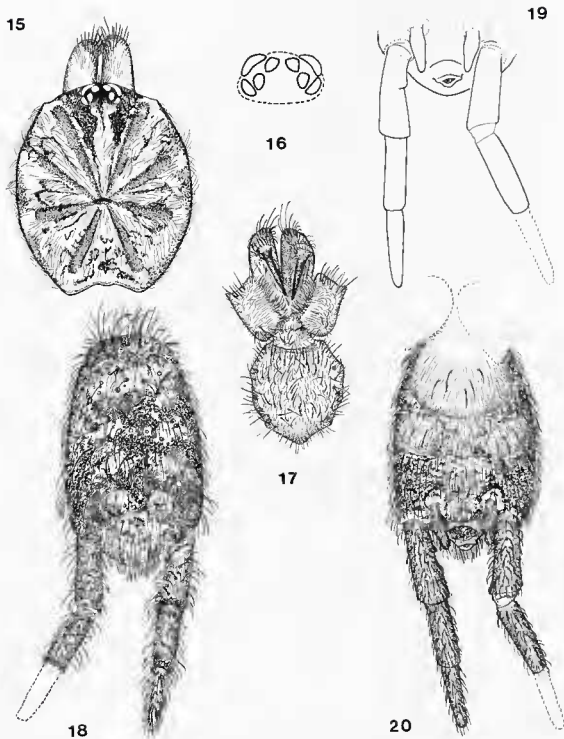
Trichobothria in two rows, each of 7 for two-thirds of tibiae; about 10 on metatarsi and tarsi in straight row.

Palp. Bulb large pyriform with tapering embolus.

Spinnerets. PMS 0.97 long, 0.28 wide, 0.94 apart, and about 0.50 of basal PLS in diameter. Basal, middle, apical, total segments of PLS, 1.59, 1.63, 1.84, 5.06 long, respectively.

Allotype female. Carapace 4.96 long, 3.75 wide. Abdomen 5.00 long, 3.54 wide. Total length, 11.

Colour in alcohol. Carapace orange brown with light brown margins, two light brown triangular regions on lateral caput, narrow



FIGS 15-20. — *Stenogrocerus simon*, holotype male. 15 : carapace and chelicerae ; 16 : eyes, dorsal view ; 17 : sternum, maxillae, labium, and chelicerae, ventral view ; 18 : abdomen, dorsal view ; 19 : spinnerets, ventral view ; 20 : abdomen, ventral view.

brown lines on interstitial ridges, chelicerae, sternum, maxillae, labium, coxae, trochanters, and legs orange brown. Abdomen dorsally brown with large pallid region anteriorly, followed by two large paired areas and two transverse pallid bands; ventrally entirely brown save for yellow booklung covers; spinnerets brown ventrally, yellow brown dorsally.

Carapace. Light covering of fine wavy brown hairs; striae glabrous; longest bristles on margin at bases of interstitial ridges; 4 long fine setae on clypeal edge, one long in front of AME. Fovea short straight. Clypeus 0.16 wide. One pair of foveal bristles.

Eyes. Group occupies 0.34 of head-width. Front row procurved; back row recurved. AME on low mound. Eye group front width, hack width, length, 40; 42; 17. MOQ front width, back width, length, 16; 30; 15. AME: ALE: PME: PLE, 7: 16: 8: 11. Eye interspaces: AME-AME, 0.7; AME-ALE, 0.1; ALE-PLE, 0; PME-PME, 2.4; PML-PLI, 0.1; ALE-ALE, 2.1.

Chelicerae. Covered with long curved brown bristles prodorsally, laterally with scattered fine setae. Furrow promargin with 10 large mixed with 5 small teeth, basomesally with 2 small teeth and 10-15 fine granules.

Labium 0.58 long, 0.96 wide. Maxillae 1.21 long in front, 1.33 long behind, 0.92 wide. Sternum 2.63 long, 2.17 wide. Sigilla all small, oval, marginal - one length away.

Legs. Femora with 3-5 sinuous slender spine-like setae dorsally. Metatarsal preening combs: 1 of 3-7 setae proventral on I, II, III, retroventral on III, IV, and ventral on I, II.

Spines. Leg I, fe 0, pa p0, ti p3, v5, me v5; leg 2, fe 0, pa p2w, ti p3, v5, me p3, v6, ta v1; leg 3, fe 0, pa p4, r2, ti p3, r2, v5, me p3, r3, v3, ta v2; leg 4, fe 0, pa p2, r2, ti p3, r4, v5, me p4, d1, r4, v6, ta v3; palp, fe 0, pa 0, ti v6, ta v6.

Claws. 12-15 (I), 7-10 (IV) teeth in S-shaped row on paired claws, 1 small blunt tooth (I) to 2 long slender (IV) on third claw; about 9 teeth on palpal claw.

Trichobothria in two rows, each of about 10 for two-thirds of tibiae; about 10 on metatarsi and tarsi in straight row.

Spermathecae two separate lobes on each side, each lobe basally straight, slender, distally spiralled for one to two twists with apical ovoid expansion.

Spinnerets. PMS 1.08 long, 0.33 wide, 1.17

apart, and about 0.67 of basal PLS in diameter. Basal, middle, apical, total segments of PLS, 1.79, 1.83, 1.92, 5.54 long, respectively.

Etymology: the specific epithet is a patronym in honour of the collector of the holotype, Professor Herbert FRANZ.

Distribution and habitat: known only from rainforest at the type locality, Mts Koghis.

Material examined: only the types.

Stenogyrocercus kresta n. sp.

(figs 1, 30, 31, & 38; table 4)

Type material: holotype: Mt Do, summit 900 m, 20.V.1987 (R. J. RAVEN), QM S 7133.

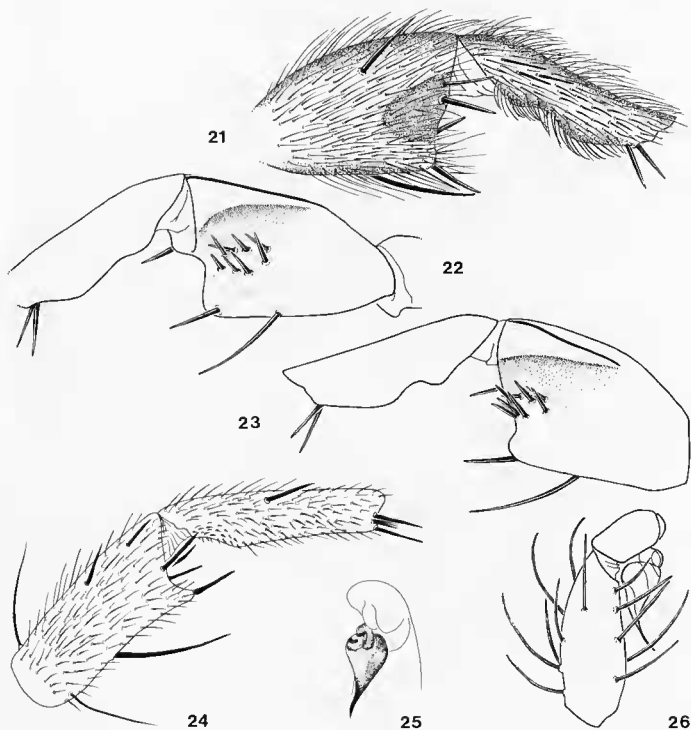
Diagnosis: differs from other species by having 10-12 teeth on paired claws and from *S. silvicola* by having relatively smaller apical spermathecal receptacula.

Female. About 10-12 teeth on paired claws of legs I, IV; one tooth on unpaired claw of leg I. Abdomen dorsally brown with paired pallid spots; legs without annulations. Two pairs of preening combs on metatarsi I, II. Spermathecae four, each pair discharging separately; inner receptaculum with long sinuous shaft, double twisted coil and enlarged apex; outer lobe with short basal shaft, three coiled spiral and larger apex.

Description: holotype female QM S 7133. Carapace 2.92 long, 2.38 wide. Abdomen 3.04 long, 2.08 wide. Total length, 6.

Colour in alcohol. Carapace yellow brown with brown markings on margins, caput and interstitial ridges, chelicerae yellow brown, sternum yellow brown with light brown speckling on margins, maxillae and labium yellow brown with some light brown speckling, coxae and trochanters yellow with light brown tinge, and legs yellow brown with faint brown annulations on tibiae and metatarsi. Abdomen dorsally red brown, anteriorly pallid with four pairs of pallid ovoid areas posteriorly; ventrally red brown, slightly more pallid centrally; spinnerets dorsally yellow brown with brown joints, ventrally brown.

Carapace. Pilosity: few wavy brown hairs on interstitial ridges and on caput; moderately long



FIGS 21-26. *Stenogyrocreus sumoi*, holotype male. 21-23 : tibia and metatarsus I, 21 : prolateral view ; 22 : oblique retro-lateral view ; 23 : retro-lateral view ; 24 : tibia and metatarsus II, prolateral view ; 25 : palpal cymbium and bulb, retroventral view ; 26 : palpal tibia, cymbium, and bulb, prolateral view (fine setae omitted).

bristles in two groups on margin; 3 fine setae on clypeal edge. Fovea short straight. Clypeus 0.12 wide. One pair of foveal bristles.

Eyes. Group occupies 0.33 of head-width. Front row slightly recurved; back row recurved. Eye group front width, back width, length, 26 : 26 : 14. MOQ front width, back width, length, 13 : 19 : 10. AME : ALE : PME : PLE, 4 : 9 : 5 : 7. Eye interspaces : AME-AME, 0.8 ; AME-ALE, 0.3 ; ALE-PL, 0 ; PME-PME, 2.8 ; PME-PL, 0.3 ; ALE-ALE, 2.5.

Chelicerae. With few long and numerous short bristles prodorsally, laterally a band of fine setae. Furrow promargin with 5 large mixed with 11 smaller teeth, basomesally with 1 moderately large and 2 small teeth and 30-40 granules.

Labium 0.29 long, 0.60 wide. Maxillae 0.73 long in front, 0.85 long behind, 0.54 wide. Sternum 1.56 long, 1.40 wide.

Legs. All femora with 3-5 long curved setae dorsally.

TABLE 4. — Leg measurements of *Stenogrocerus kresta*, holotype female.

	I	II	III	IV	Palp
Femur	2.04	1.83	1.79	2.08	1.33
Patella	1.21	1.29	1.00	1.25	0.88
Tibia	1.25	1.17	1.21	1.67	0.92
Metatarsus	1.21	1.25	1.58	2.13	
Tarsus	0.71	0.75	0.79	1.00	1.00
Total	6.42	6.29	6.37	8.13	4.13

Spines. Leg 1, fe 0, pa p2w, ti p3, v5, me v4, ta 0 ; leg 2, fe 0, pa p2w, ti p2, v4, me p3, v5, ta v0 ; leg 3, fe 0, pa p3, r2, ti p3, r2, v5, me p3, r3, v4, ta v1 ; leg 4, fe 0, pa p2w, r1w, ti p3, r4, v5, me p3, r3, v4, ta v1 ; palp, fe 0, pa 0, ti p1 v6, ta v6. Metatarsal preening combs : 1 of 2-7 setae proventral on I, II, III, retroventral on III, IV and ventral on I, II.

Claws. 10-12 (I) to 6-8 (IV) teeth in S-shaped row on paired claws, 1 small tooth (I) to 2 long (IV) teeth on third claw; about 12 teeth on palpal claw.

Trichobothria in two rows, each of 9 for two-thirds of tibiae; about 9-12 on metatarsi and tarsi in straight row.

Spermathecae four, each pair discharging separately; inner receptaculum with long sinuous shaft, double twisted coil and enlarged apex;

outer lobe with short basal shaft, three coiled spiral and larger apex.

Spinnerets. PMS 0.75 long, 0.21 wide, 0.75 apart, and about 1.25 of basal PLS in diameter. Basal, middle, apical, total segments of PLS, 0.96, 0.92, 1.13, 3.01 long, respectively.

Etymology : the specific epithet is an arbitrary combination of letters.

Distribution and habitat : known only from rainforest at the type locality, Mt Do, at an altitude of about 900 m.

Material examined : only the type.

Stenogrocerus recineus n. sp.

(figs 1, 29 & 36 ; table 5)

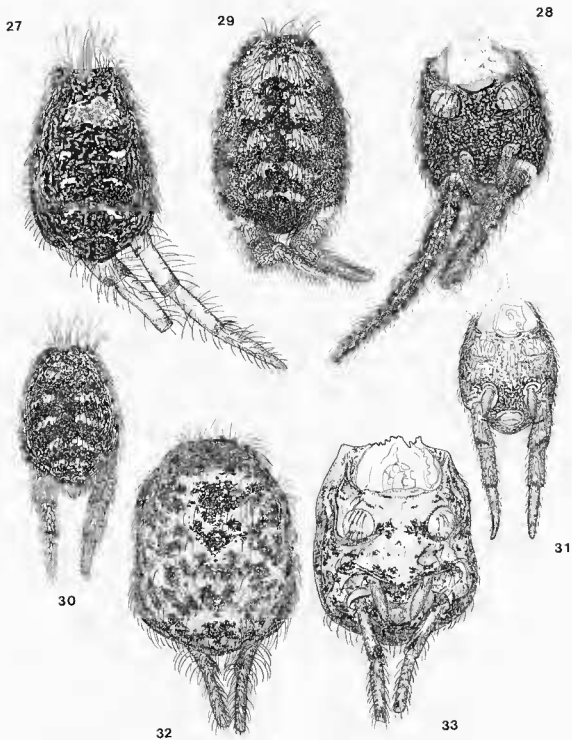
Type material : holotype ♂ : Rivière des Progues, headwaters, 350-400 m, 22.v.1984 (G. MONTIETH, D. COOK), QM s 15518 ; paratype 1 ♀ : same data, QM s 4138.

Diagnosis : differs from *S. simoni* by relatively longer spermathecal stalks, and from other species by having the stalks fused basally.

Females. About 12-15 teeth on paired claws of legs I, IV ; one tooth on unpaired claw of leg I. Abdomen dorsally brown with paired pallid spots ; legs without annulations. Two pairs of preening combs on metatarsi I, II. Spermathecae four, each a pair of long lobes joined basally, both basally straight with one to two spirals below apical enlarged vesicle.

Description : holotype female QM s 15518. Carapace 4.04 long, 3.25 wide. Abdomen 4.33 long, 2.71 wide. Total length, 9.

Colour in alcohol. Carapace entirely yellow brown with faint brown triangular areas behind eye group, chelicerae, sternum, maxillae, labium, coxae, trochantera and legs yellow brown. Abdomen dorsally red brown with large pallid area anteriorly and 4 irregular large paired pallid marks posteriorly ; ventrally light reddish brown with pallid urea medially and transversely behind posterior booklungs ; spinnerets dorsally yellow brown, ventrally red brown.



FIGS 27-33. *Stenagrocerus*. Abdomen, female holotypes. 27, 28 : *S. alphoreus* : 27 : dorsal view ; 28 : ventral view ; 29 : *S. recineus*, dorsal view ; 30, 31 : *S. kresta* : 30 : dorsal view ; 31 : ventral view ; 32, 33 : *S. tonta* : 32 : dorsal view ; 33 : ventral view.

Carapace. Pilosity: with thin pile of fine black hairs; striae glabrous; three groups of longer bristles separated by much shorter bristles on margin; 4 fine bristles on clypeal edge. Fovea short recurved. Clypeus 0.12 wide. 1 pair of foveal bristles.

Eyes. Group occupies 0.32 of head-width. Front row slightly procurved; back row recurved. AME set on raised mound. Eye group front width, back width, length, 34:36:20. MOQ front width, back width, length, 16:24:13. AME:ALE:PME:PLE, 6:13:6:10. Eye interspaces: AME-AME, 0.7; AME-ALE, 0.3; ALE-PLE, 0; PME-PME, 2.3; PME-PLE, 0.2; ALE-ALE, 2.3.

Chelicerae. Covered with numerous long bristles on anterior face, laterally with band of short setae. Furrow promargin with 7 large intermixed with 11 smaller teeth, basomesally with 5 small teeth and 30-40 finer granules.

Labium 0.46 long, 0.79 wide. Maxillae 1.13 long in front, 1.25 long behind, 0.71 wide. Sternum 2.17 long, 1.92 wide. Sigilla all small, oval, marginal.

Legs. Only weak setae on femora.

TABLE 5. — Leg measurements of *Stenogyrocercus reclusae*, holotype female.

	I	II	III	IV	Palp
Femur	2.71	2.71	2.71	3.21	2.08
Patella	1.63	1.71	1.58	1.88	1.29
Tibia	1.92	1.75	1.83	2.50	1.42
Metatarsus	1.83	1.96	2.54	3.25	—
Tarsus	1.13	1.17	1.29	1.63	1.42
Total	9.22	9.30	9.95	12.47	6.21

Spines. Leg I, fe 0, pa 0, ti p1, v5, me v6; leg 2, fe 0, pa p2w, ti p3, v5, me p3, v6, ta v1; leg 3, fe 0, pa p4, r1, ti p3, r2, v5, me p3, r3, v4, ta v2; leg 4, fe 0, pa p2, r2, ti p2, r3, v5, me p4, r4, v6, ta v3; palp, fe 0, pa 0, ti v6, ta v5. Metatarsal preening combs: 1 of 2-7 setae proventral on I, II, III, retroventral on III, IV, and ventral on I, II.

Claws. 12-15 (I), 7-9 (IV) teeth in S-shaped row on paired claws, 1 (I), 3 (IV) teeth on third claw; 10-12 teeth on palpal claw.

Trichobothria in two rows, each of 8 for length of tibiae; about 10 on metatarsi and also on tarsi in straight row.

Spermathecae four, each a pair of long lobes joined basally, both basally straight with one to two spirals below apical enlarged vesicle.

Spinnerets, pms 1.08 long, 0.33 wide, 1.13 apart, and about 0.62 of basal pls in diameter. Basal, middle, apical, total segments of pls, 1.58, 1.75, 2.04, 5.37 long, respectively.

Etymology: the specific epithet is an arbitrary combination of letters.

Distribution and habitat: known only from rainforest at the type locality, at the headwater (altitude 350-400 m) of the Rivière des Pirogues.

Material examined: only the types.

Stenogyrocercus simoni n. sp.

(figs 1, 2-9, 15-26 & 39; tables 6, 7)

Type material: holotype ♂: Rivière Bleue, 7.x.1988 (R. J. RAVEN), QM S 15474; allotype ♀: Rivière Bleue, hand collection in leaf litter, 21.v.1987 (R. J. RAVEN), QM S 11732; 1 ♂: Oucénarou, August 1987 (Y. LETOCART), MNHN; 1 ♀: Rivière Bleue, maquis near house, 8.xi.1988 (T. B. CHURCHILL), QM S 17037; 1 ♀: Rivière Bleue, in bank beside heath, 7.xi.1988 (R. J. RAVEN), QM S 17035; 1 ♀, 4 juv.: Rivière Bleue, alluvions, 27.x.1988 (R. J. RAVEN), QM S 17036.

Diagnosis: differs from *S. franzi* by the larger and more heavily armed tibia I and the weaker tibial spur on leg II. Females differ from other species by the relatively shorter fused stalks.

Spermathecae four, each pair joins before discharging; inner lobe longer with one coil and spheroidal apex; outer lobe shorter but otherwise the same; basal shaft short.

Description: holotype male QMS 15474. Carapace 3.24 long, 2.72 wide. Abdomen 3.40 long, 2.24 wide. Total length, 8.

Colour in alcohol. Carapace yellow brown with light brown margins, reticulated markings on interstitial ridges, around eyes and laterally on caput; chelicerae and legs yellow brown. Abdomen dorsally brown with pallid area anteriorly, three paired pallid areas and pallid tip to abdomen; abdomen ventrally brown. Distal face of tibial spur on leg I red brown.

Carapace. Caput low, thoracic region as high. Lateral margins with moderately long fine bristles; interstitial ridges with long grey wavy hair, not obscuring cuticle; striae glabrous; grooves distinct. Fovea a short deep transverse pit. One pair of foveal setae. No anteromedial setae. Four received setae in front of AME. Clypeus narrow, flat, distinct.

Eyes. Tubercle distinct. Group occupies 0.36 of head-width. Two rows; front row procurved, back row recurved. PME large. Eye group front width, hack width, length, 30 : 33 : 16. MOO front width, back width, length, 15 : 23 : 13. AME : ALE : PME : PLE, 6 : 11 : 7 : 9. AME-AME, 2; AME-ALE, 0; ALE-ALE, 15; PME-PLA, 0; PME-PME, 12; ALE-PLA, 0.

Chelicerae. Small, slender with line of long thick and a band of finer bristles dorsally. Fangs long, smooth, slender. Furrow promargin with 6 large mixed with 8 smaller teeth, basomesally with 20-30 fine granules. Intercheliceral tumescence absent.

Labium. 0.62 wide, 0.30 long. Anteriorly indented; with long low bristles. Labiosternal suture a broad continuous groove. Maxillae 0.86 long in front, 0.90 long behind, 0.46 wide. Rectangular, heel absent, anterior lobe rounded, indistinct. Serrula a distinct band. Covered with 20 long erect setae on lateral and posterior edge of ventral surface; pallid glabrous tumid area behind scopula. Sternum. 1.68 long, 1.48 wide. With long erect setae on lateral margins; shorter but erect setae and very short fine hairs uniformly over central area. All sigilla small, oval, marginal.

Legs. Uniformly covered with long bristles and fine hairs. Tibiae and metatarsi I and II modified. Tibia I strongly incrassate, thickest distally; proventral surface with distal groove formed by distal spinose spur and prolateral low spur with two spines; retrolateral surface dorsally with orange ridge below which is diagonal groove delimited by about 7 short, thick megaspines on raised mound. Metatarsus I incrassate with premedial excavation on proventral surface; prolateral edge of excavation with band of short, curved black thorn-like setae. Tibia II slightly incrassate with small spur and long megaspine on distal ventral surface; metatarsus II incrassate, proximally excavate with group of setae as on metatarsus I.

Scopula entirely absent. Preening combs: a set of 3 short tooth-like setae on common base

proventrally and two longer setae on true ventral metatarsi I; metatarsi II with proventral and ventral comb of 3-4 long setae; one set of 4 long teeth proventrally on metatarsi III; one group of 7 long setae retroventrally on metatarsi IV.

Spines. Femora with 4-6 long thick erect setae dorsally and with each ventrolateral margin with line of long erect setae. All tarsi and cymbium spinose. Leg 1, fe 0, pa p2, ti p2, v2+7 retroventrally on mound and 2 megaspines, me v3; leg 2, fe 0, pa p2, ti p2, v3+ megaspine, me p2, v4; leg 3, fe 0, pa p4, r2 (very long), ti p3, d2w, r1, v5, me p3, r3, v5; leg 4, fe 0, pa p2 r2, ti p3, d2, r3, v3, me p4, r4, v6; palp, fe 0, pa 0, ti v3w.

TABLE 6. — Leg measurements of *Stenygrocerus simoni*, holotype male.

	I	II	III	IV	Palp
Femur	2.48	2.36	2.36	2.64	1.80
Pateilla	1.60	1.36	1.32	1.56	1.04
Tibia	1.76	1.64	1.60	2.04	1.12
Metatarsus	1.60	1.88	2.20	3.00	—
Tarsus	1.12	1.36	1.40	1.52	0.60
Total	8.56	8.60	8.88	10.76	4.56

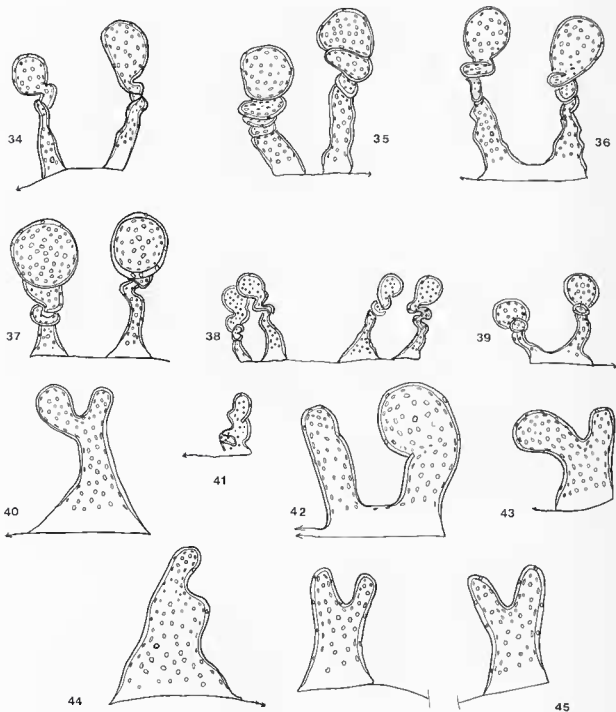
TABLE 7. — Leg measurements of *Stenygrocerus simoni*, allotype female.

	I	II	III	IV	Palp
Femur	3.00	2.88	2.88	3.44	2.20
Pateilla	1.88	1.84	1.72	1.92	1.24
Tibia	1.92	1.72	1.84	2.40	1.44
Metatarsus	1.88	1.88	2.48	3.40	—
Tarsus	1.00	1.08	1.24	1.48	1.32
Total	9.68	9.40	10.16	12.64	6.20

Claws. About 10 long teeth in S-shaped line on paired claws, 2 long teeth closely set on unpaired claws of leg I; leg IV claw dentition similar but with 8 long on paired claw and 4 long (not on a common process, as in Masteriinae) on unpaired claw.

Trichobothria in two rows, each of 7 on tibiae for half its length; about 7-9 in one row on metatarsi and tarsi.

Palp. Bulb long, pyriform with short tapered embolus; cymbium short, spinose.



FIGS 34-45. *Stenognathus* and *Caledothle*. Spermathecae, female (arrow indicates spermathecae of only one side is shown). 34: *S. frantz*; 35: *S. alphorvus*; 36: *S. revinus*; 37: *S. silivola*; 38: *S. krestu*; 39: *S. sinuati*; 40: *C. aoupine*; 41: *C. tonta*; 42: *C. elegans*; 43: *C. tristata*; 44: *C. varina*; 45: *C. unipuu*. La Foa, MNHN.

Spinnerets. PMS 0.76 long, 0.12 wide, 0.74 apart, about 0.60 of basal PLS in diameter. PLS length of basal, middle, apical, and total articles 1.28, 1.16, 1.36, 3.80, respectively.

Description : allotype female QM s 11732. Carapace 4.64 long, 3.64 wide. Abdomen 4.40 long, 3.00 wide. Total length, 10.

Colour in alcohol. Carapace yellow brown with pair of brown wedges on caput, along strial ridges and on cheliceral margins, sternum, maxillae, labium, coxae and trochantera yellow brown, and legs yellow brown without annulations. Abdomen dorsally dark brown with transverse oval pallid area anteriorly and four pairs of pallid spots posteriorly; ventrally brown with slightly pallid medial lines; spinnerets entirely light brown.

Carapace. Light covering of fine grey hairs on caput and strial ridges; lateral margins with long curved bristles, longest at mid-point. Four long setae on clypeal edge. Fovea short, recurved. One pair of foveal bristles; four slender long bristles in front of AME. Clypeus 0.05 wide.

EYES. AME on slight mound, PME large, silver. Group occupies 0.40 of head-width. Eye group front width, back width, length, 32 : 34 : 17. MOQ front width, back width, length, 15 : 25 : 14. AME : ALE : PME : PLE, 6 : 11 : 8 : 10. Eye interspaces : AME-AME, 0.7; AME-ALE, 0.3; ALE-PLA, 0; PME-PME, 2.3; PME-PLA, 0.2; ALE-ALE, 2.5. Front row procurved; back row recurved.

Chelicerae with several long brown curved bristles mixed with numerous short setae prodorsally and extending laterally. Furrow promargin with 3 large mixed with numerous small to minute teeth, basomesally with 1 small basal and two smaller teeth and 30-40 granules.

Labium 0.88 long, 0.56 wide. Maxillae 1.12 long in front, 1.24 long behind, 1.00 wide. Sternum 2.40 long, 2.00 wide. All sigilla small, oval, marginal.

Legs. About 5 long curved setae dorsally on femora.

Spines. Leg 1, fe 0, pa 0, ti p1, v5, me p0, v5, ta v0; leg 2, fe 0, pa p3w, ti p2, v5, me p2, v6, ta v2; leg 3, fe 0, pa p4, r1, ti p3, r2, v5, me p3, r3, v6, ta v2; leg 4, fe 0, pa p2, r2, ti p3, r4, v5, me p3, r4, v6, ta r1, v4; palp, fe 0, pa 0, ti p2w, v7, ta v8. Metatarsal preening combs : 1 of 2-6 setae proventral on I, II, III, and retroventral on II, III, IV.

Claws. 12 (I), 8 (IV) teeth in S-shaped row on

paired claws, 1 (I) to 3 long (IV) teeth on third claw; 8-10 teeth on palpal claw.

Trichobothria in two rows, each of about 10 for half of tibiae; about 10 on metatarsi and tarsi in straight row.

Spermathecae four, each pair joins before discharging; inner lobe longer with one coil and spheroidal apex; outer lobe shorter but otherwise the same; basal shaft short.

Spinnerets. PMS 1.00 long, 0.32 wide, 1.02 apart, and about 0.32 of basal PLS in diameter. Basal, middle, apical, total segments of PLS, 1.65, 1.28, 1.93, 4.86 long, respectively.

Etymology : the specific epithet is a patronym in honour of the french arachnologist, Eugène Simon, 1848-1924.

Distribution and habitat : known only from lowland rainforest and riverine heath in Rivière Bleue and Ouénarou.

Web : webs were found and excavated in embankments with the characteristic pilose curtain quickly evident. Also, in searching rotting logs and leaf litter for *Masteria*, young specimens of *S. simoni* were taken from thin web tubes. The red friable soil, into which the spiders webs were built, made successful excavation a rare event.

Remark : position and number of preening combs are variable within this species.

Material examined : only the types.

Genus *CALEDOTHELE* n. g.

Diagnosis : differs from all other euagrines in lacking a tibial spur on male tibiae I and II. It differs from *Stenogyrocerus* also in each spermatheca being a single and sometimes divided stalk. Females of *Caledothele* can be recognised by the strong annulations on the legs, more holdly patterned abdomen, and most have fewer teeth (8-10 vs 12-15, rarely less) than *Stenogyrocerus*.

Description : eight eyes in rectangular group. Caput low, fovea transverse. One, rarely two pairs of foveal bristles. Clypeus present, narrow. Serrula broad. Basal region of cheliceral furrow with one or two small teeth, not granules.

Metatarsal preening combs usually present on legs I-IV; 2 pairs of combs on I, II and sometimes III. Spines few but present on all tarsi. Males without coupling spurs on tibia I, II. Palpal bulb pyriform. Spermathecae two, each an apically divided or entire lobe. Trichobothrial bases corrugiform. Australotheline crescent present, distinct.

Type species : *Stenygrocerus australiensis* Raven, 1984

Distribution : Northern New Caledonia, as far south as Mt Mou, south-eastern Australia.

Habitat and web : known from montane rainforest, and lowland forest. The web construction of *C. carina* is similar to that of *Stenygrocerus*.

Species included : *Stenygrocerus annulatus* Raven, 1981; *Caledothele aoupinie* n. sp.; *Stenygrocerus australiensis* Raven, 1984; *Caledothele carina* n. sp.; *Caledothele elegans* n. sp.; *Caledothele tonta* n. sp.; *Caledothele tristata* n. sp.

***Caledothele annulatus* (Raven, 1981)**

(fig. 1)

[*Stenygrocerus silvicolus*] Berland, 1924 : 160, 174; *Stenygrocerus annulata* Raven, 1981 : 229. New synonymy; *Stenygrocerus annulatus* Platnick, 1989 : 81.

Type locality : Oubatche.

Type material : holotype ♂ : Oubatche; 2 female paratypes : La Foa (here listed as *Caledothele aoupinie*, n. sp.).

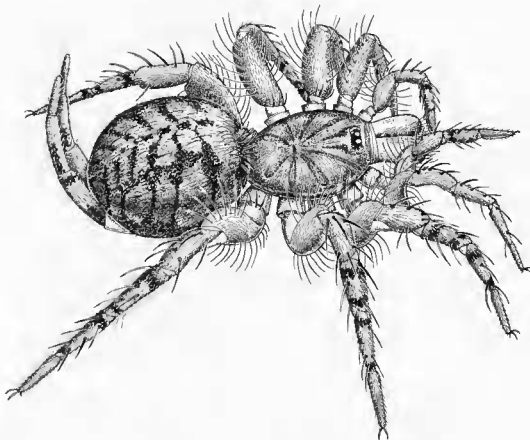


FIG. 46. *Caledothele elegans*, female, oblique dorsal view and lateral view leg IV showing annulations.

Diagnosis : differs from *C. australiensis* in the larger size and stronger leg spination. No females are known. Hence, no comparison can be made with other included species.

Caledothele aoupinie n. sp.

(figs 1, 40 & 56-57; table 8)

Type material : holotype ♀ : Aoupinié, 20 km NE of Poya, New Caledonia, 50-750 m, 18-19.v.1984 (G. MONTEITH, D. COOK), QM s 12509; 2 ♀, paratypes : same data, QM s 4139.

Diagnosis : differs from other species by the long basal spermathecal stalk and short apical division.

Females. About 11 teeth on paired claws of legs I, IV; no teeth on unpaired claw of leg I. Abdomen dorsally brown with large paired pallid areas forming distinct fishbone effect; legs with distinct annulations. Two pairs of preening combs on metatarsi I, II. Spermathecae two, each a long basally broad lobe with bifurcation in apical third, inner lobe fatter and longer. About 11 teeth on paired claws of legs I, IV; two teeth on unpaired claw of leg I. Abdomen dorsally pallid with brown herring-bone pattern; legs with light but distinct annulations.

Description : holotype female QM s 12509. Carapace 5.60 long, 4.80 wide. Abdomen 6.67 long, 4.17 wide. Total length, 16.

Colour in alcohol. Carapace, chelicerae, and legs yellow brown; light annulations on basal femora, proximal tibiae and proximal and distal metatarsi. Abdomen dorsally brown with 4 paired irregular pale areas anteriorly and 3 narrow white crescents behind that; laterally white mottling gives irregular brown fishbone effect. Ventrally abdomen brown with central white mushrooms and 2 pallid areas lateral of that on each side.

Carapace with brown markings above all leg coxae, mottled purplish brown area around eyes along strial rim. Bristle numbers and positions : I pair of foveal bristles; 4 long erect setae on clypeal edge; some fine black bristles on margins; uniform covering of golden brown hairs. Fovea short, recurved. Clypeus narrow. Striae shallow, glabrous.

Eyes. Tubercle distinct. Group occupies 0.36

of head-width. Two rows; front row slightly procurved, back row recurved. Eye group front width, back width, length, 63 : 67 : 35. MOO front width, back width, length, 20 : 48 : 27. AME : ALE : PME : PLE, 15 : 23 : 14 : 19. AME-AME, 0.3 : AME-ALE, 0.3 ; ALE-ALE, 1.9 ; PME-PLE, 0.1 ; PME-PME, 1.7 ; ALE-PLE 0.1.

Chelicerae porrect; proximally with shallow saddle; prodorsal band of few long and few short bristles; lateral band irregular, thin, sparse, with short hairs. Furrow promargin with 8 large teeth, mixed with 10 small teeth, basomesally with 5 small teeth and 20-30 granules.

Labium 1.28 wide, 0.52 long. Labiosternal suture a shallow groove of 2 sigilla joined medially. Maxillae 1.88 long in front, 1.8 long behind, 1.08 wide. Sternum 3.44 long, 2.72 wide. Sigilla small, distinct, oval, submarginal.

Legs. Preening combs : I, II with 1 of 4 pro and retroventrally; III, IV with 1 of 4 retro-laterally.

TABLE 8. — Leg measurements of *Caledothele aoupinie*, holotype female.

	I	II	III	IV	Palp
Femur	3.52	3.52	3.28	3.84	2.48
Patella	2.24	2.16	2.16	2.48	1.60
Tibia	2.32	2.16	2.40	3.04	1.76
Metatarsus	2.48	2.64	3.44	4.16	—
Tarsus	1.36	1.68	1.84	2.00	2.08
Total	11.92	12.16	13.12	15.52	7.92

Spines. Femora III with 6-10 long thick curved bristles. Leg I, fe 0, pa p5w, ti p3, v5, me p1, v4, ta 0; leg 2, fe 0, pa p4w, ti p3, v6, me p3, v4, ta 0; leg 3, fe 0, pa p4, d3, r2, ti p3, d2, r4, v6, me p4, r3, v7, ta 0; leg 4, fe 0, pa p2, r4, ti p3, d2, r3, v6, me p3, r2, v6, ta v2/3; palp, pa 3w, ti p2, v8, ta v7.

Claws. II (I) to 8 (IV) long S-shaped teeth on paired claws, I (I) to 3 (IV) long sessile on unpaired claws, 8 teeth on palpal claw.

Trichobothria in two rows, each of 8 for half on tibiae; about 12-15 in straight line on metatarsi and tarsi; tarsal organ a distinct ovoid mound distal of trichobothria and well back from leg margin.

Spermathecae two, each a long basally broad

lobe with bifurcation in apical third, inner lobe fatter and longer.

Spinnerets. PMS 0.87 long, 0.17 wide, 0.83 apart, about 0.40 of basal PLS in diameter. PLS length of basal, middle, apical, and total articles 1.50, 1.67, 2.83, 6.00, respectively.

Etymology: the specific epithet is derived from the name of the type locality.

Distribution and habitat: *Caledothele aoupinie* is known only from rainforest at the type locality, Mt Aoupinié.

Remark: the genital region of females is tumid and projects back to posterior edge of posterior booklungs.

Material examined: the types and 2 females labelled La Foa (MNH) listed as paratypes of *Stenycrocercus annulatus* by RAVEN (1981).

Caledothele carina n. sp.
(figs 1, 44 & 54-55; table 9)

Type material: holotype ♀; Plateau de Dogny, beside path, 200-900 m, 25.v.1987 (R. J. RAVEN), QM s 7134.

Diagnosis: differs from all other species by having the second "lobe" reduced to a low stump or mound.

Female. About 10-12 teeth on paired claws of legs I, IV; two teeth on unpaired claw of leg I. Abdomen dorsally brown with paired pallid spots; legs with bold distinct annulations. Two pairs of preening combs on metatarsi I, II. Spermathecae each a single lobe, outer edge almost straight, inner edge sinuous with two constrictions at one and two-thirds of length.

Description: holotype female QM s 7134. Carapace 3.21 long, 2.58 wide. Abdomen 3.88 long, 3.00 wide. Total length, 7.

Colour in alcohol. Carapace yellow brown with red brown paired triangular areas behind eyes, light brown on interstitial ridges and 3 brown incursions on each lateral margin, light brown triangle in front of pedicel, chelicerae yellow brown, sternum yellow brown centrally elsewhere with light brown speckling, maxillae and

labium yellow brown, coxae yellow brown with distal ventral brown spot, trochantera yellow brown with brown ridge, legs yellow brown with brown areas basoventrally and distodorsally on femora, retrolaterally on patellae I, II, forming distinct dark and complete annulations proximally and indistinct distal incomplete bands on tibiae and metatarsi. Abdomen dorsally equal parts white and red brown, irregular brown area anteriorly followed by transverse pallid band, centrally red brown with five pairs of very irregular brown chevrons laterally; ventrally pallid with red brown areas around PMS, and around posterior booklungs; PMS entirely pallid, PLS dorsally and ventrally brown, laterally pallid.

Carapace. Light pile of brown hairs; striae glabrous; long fine bristles in groups on margin mixed with weaker bristles; 5 fine setae on clypeal edge. Fovea short recurved. Clypeus 0.12 wide. One pair of foveal bristles evident as scars. Eyes. Group occupies 0.36 of head-width. Front row straight; back row recurved. AME on low mound. Eye group front width, back width, length, 30:32:16. MOQ front width, back width, length, 14:22:12. AME:ALE: PME:PLE, 6:11:6:8. Eye interspaces: AME-AME, 0.3; AME-ALE, 0.2; ALE-PLE, 0; PME-PME, 2.0; PME-PLE, 0.2; ALE-ALE, 2.0.

Chelicerae. With few long brown and numerous shorter bristles dorsally, laterally with band of fine setae. Furrow promargin with 6 large mixed with 6 small teeth, basomesally with 4 small teeth and 20-30 fine granules.

Labium 0.33 long, 0.65 wide. Maxillae 0.92 long in front, 0.94 long behind, 0.50 wide. Sternum 1.71 long, 1.56 wide.

Legs. Femora with very long thin curved setae dorsally.

TABLE 9. - Leg measurements of *Caledothele carina*, holotype female.

	I	II	III	IV	Palp
Femur	2.04	1.96	2.04	2.29	1.50
Patella	1.38	1.33	1.12	1.54	0.96
Tibia	1.29	1.13	1.04	1.50	0.92
Metatarsus	1.17	1.17	1.48	2.00	-
Tarsus	0.75	0.75	1.36	1.04	0.96
Total	6.63	6.34	7.04	8.37	4.34

Spines. Leg 1, fe 0, pa p1w, ti p2w, v5, me v5, ta 0; leg 2, fe 0, pa p3w, ti p3, v5, me p3, v5, ta 0; leg 3, fe 0, pa p4, r2, ti p3, r1, v5, me p3, r3, v4, ta v0; leg 4, fe 0, pa p2, r2, ti p2, r2, v5, me p3, r4, v5, ta v2; palp, fe 0, pa 0, ti v6, ta v6. Metatarsal preening combs: 1 of 4-7 setae proventral on I, II, III, retroventral on III, IV, and ventral on I, II.

Claws. 10-12 (I), 6 (IV) teeth in S-shaped row on paired claws, 2 long (I, IV) teeth on third claw; about 8 teeth on palpal claw.

Trichobothria in two rows, each of 7 for two-thirds of tibiae; about 7-9 on metatarsi and tarsi in straight row.

Spermathecae each a single lobe, outer edge almost straight, inner edge sinuous with two constrictions at one and two-thirds of length.

Spinnerets. PMS 0.73 long, 0.25 wide, 0.96 apart, and about 0.71 of basal PLS in diameter. Basal, middle, apical, total segments of PLS. 1.21, 1.15, 1.31, 3.67 long, respectively.

Etymology: the specific epithet derives from the latin *carina* (keel) and alludes to the track up to the Plateau de Dogny.

Distribution and habitat: known only from rainforest at the type locality, on the track up to the Plateau de Dogny from the western slopes. The spider was found in a low embankment.

Material examined: only the type.

Caledothele elegans n. sp.

(figs 1, 42 & 46-53; table 10)

Type material: holotype ♀: Mt Mou, summit 1200 m, 24.v.1984 (G. MONTEITH, D. COOK), QM s 15516; paratypes 2♀: same data, QM s 4137, QM s 7216.

Diagnosis: differs from all other species by the deeply divided spermathecal stalks.

Females. About 8-10 teeth on paired claws of legs I, IV; no teeth on unpaired claw of leg I. Abdomen dorsally brown with paired pallid diagonal lines; legs with bold distinct annulations. Two pairs of preening combs on metatarsi I, II. Spermathecae consist of two similar lobes

on each side but inner lobe straight, outer lobe thicker with constriction at mid-point on inner face.

Description: holotype female QM s 15516. Carapace 4.29 long, 3.13 wide. Abdomen 5.83 long, 4.58 wide. Total length, 11.

Colour in alcohol. Carapace orange brown with bold dark brown markings on caput, two most anterior pairs of interstitial ridges and along margins. Chelicerae orange brown, sternum orange brown with faintly brown edges, maxillae and labium orange brown, leg coxae with brown ovoid areas about half length of ventral surface, trochantera orange brown with brown ridge, legs orange brown, femora brown distally and baso-ventrally, patellae IV with brown triangles proximally, complete brown annulations proximally on tibiae, and distally and proximally on metatarsi, incomplete ring distally on tibiae. Abdomen dorsally red brown with six pairs of very irregularly defined narrow pallid bands, smallest posteriorly; ventrally brown with transverse pallid bands in front of posterior booklungs and in front of spinnerets; spinnerets brown, PLS with pallid areas distodorsally at joints and in narrow longitudinal band basally.

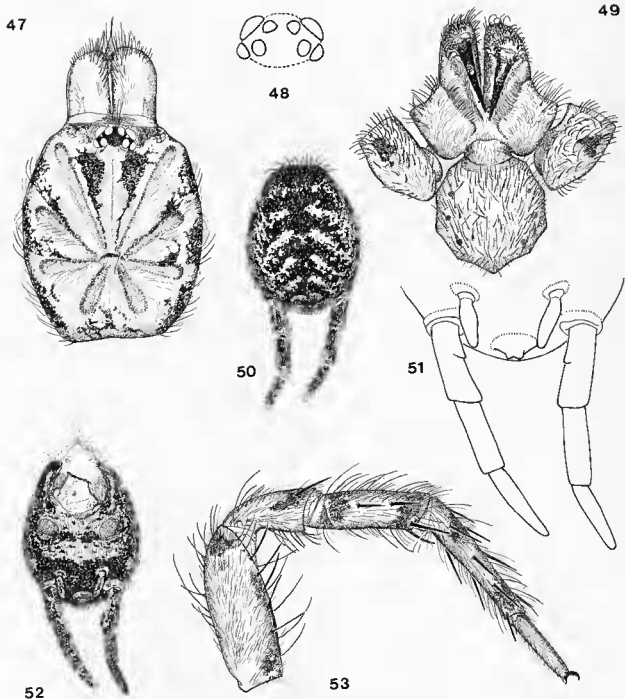
Carapace. Lightly covered with brown vay hairs; three clusters of long bristles on margin; 4 long straight bristles on clypeal edge. Fovea moderately wide, recurved. Clypeus 0.12 wide. Two pairs of foveal bristles.

Eyes. Group occupies 0.33 of head-width. AME set on elevated forward mound. Front row recurved; back row recurved. Eye group front width, back width, length, 35 : 37 : 20. MOQ front width, back width, length, 15 : 24 : 16. AME : ALE : PME : PLE, 7 : 13 : 8 : 8. Eye interspaces : AME-AME, 0.6 ; ALE-ALL, 0.1 ; ALE-PLE, 0 ; PME-PME, 1.9 ; PMF-PLE, 0.4 ; ALE-ALL, 0.

Chelicerae. With numerous long bristles dorsally, laterally with fine setae. Furrow pro-marginal with 6 large mixed with 7 small teeth, basomesally with 1 moderately large basal and 5 smaller teeth distally, 30-40 granules extend to about half the furrow length. Retromarginal with distinct chitinous ridge.

Labium 0.54 long, 0.92 wide. Maxillae 1.21 long in front, 1.33 long behind, 0.79 wide. Sternum 2.17 long, 2.08 wide. All sigilla small, distinct, oval, one diameter from margins.

Legs. All femora with 3-5 long curved setae



FIGS 47-53. — *Caledothele elegans*, holotype female. 47 : carapace and chelicerae; 48 : eyes, dorsal view; 49 : sternum, maxillae, labium, coxae I, and chelicerae, ventral view; 50 : abdomen, dorsal view; 51 : spinnerets, ventral view; 52 : abdomen, ventral view; 53 : leg IV showing annulations and pilosity.

dorsally. Legs I, II noticeably more incrassate than III, IV.

TABLE 10. — Leg measurements of *Caledothele elegans*, holotype female.

	I	II	III	IV	Palp
Femur	2.42	2.50	2.33	2.92	1.83
Patella	1.67	1.58	1.50	1.58	1.25
Tibia	1.50	1.50	1.50	1.92	1.17
Metatarsus	1.33	1.50	1.92	2.67	—
Tarsus	0.92	0.92	1.08	1.17	1.17
Total	7.84	8.00	8.33	10.26	5.42

Spines. Leg I, fe 0, pa p1w, ti p3w, v5, me v4, ta 0; leg 2, fe 0, pa p3w, ti p2, v5, me p3, v5, ta 0; leg 3, fe 0, pa p4, r2, ti p3, r1, v5, me p3, r3, v4, ta v1; leg 4, fe 0, pa p2, r2, ti p2, r4, v5, me p4, r4, v5, ta p1; palp, fe 0, pa 0, ti p1w, v7, ta v4. Metatarsal preening combs: I of 2-7 setae proventral on I, II, III, retroventral on III, IV, and ventral on I, II.

Claws. 8-10 (I), 6-7 (IV) teeth in S-shaped row on paired claws, none (I) to 2 long (IV) teeth on third claw; 5-7 teeth on palpal claw.

Trichobothria in two rows, each of about 9 for two-thirds of tibiae; about 9-15 on metatarsi and tarsi in straight row.

Spermathecae consist of two similar lobes on each side but inner lobe straight, outer lobe thicker with constriction at midpoint on inner face.

Spinnerets. PMS 0.96 long, 0.29 wide, 1.46 apart, and about 0.50 of basal PLS in diameter. Basal, middle, apical, total segments of PLS, 1.58, 1.42, 1.63, 4.63 long, respectively.

Etymology: the specific epithet alludes to the beautiful abdominal and cephalic patterns.

Distribution and habitat: known only from rainforest at the type locality, Mt Mou.

Remarks: the basal fusion of the spermathecal stalks of *C. elegans* may seem to compromise the concept of *Stenygrocerus* which is based partially on the 2+2 arrangement. However, the form of spermathecae in *Stenygrocerus* is quite different to that in *C. elegans* in consistently being slender, spiralled, with an enlarged apex.

Presumably, the basally fused stalks in *C. elegans* represent the loss of the single basal stalk. It is not considered a homoplasy.

Material examined: only the types.

Caledothele tonta n. sp.

(figs 1 & 32, 33 & 41; table II)

Type material: holotype ♀: Pic NE of Mt Tonta, stn 259, 166°17'18" E, 21°55'26" S, 320 m rainforest, thalweg, 16.IX.1986 (A. & S. TILLER), MNHN.

Diagnosis: the small sinuous main spermathecal stalk with the inner thumb-like "bud" distinguishes this species from all others.

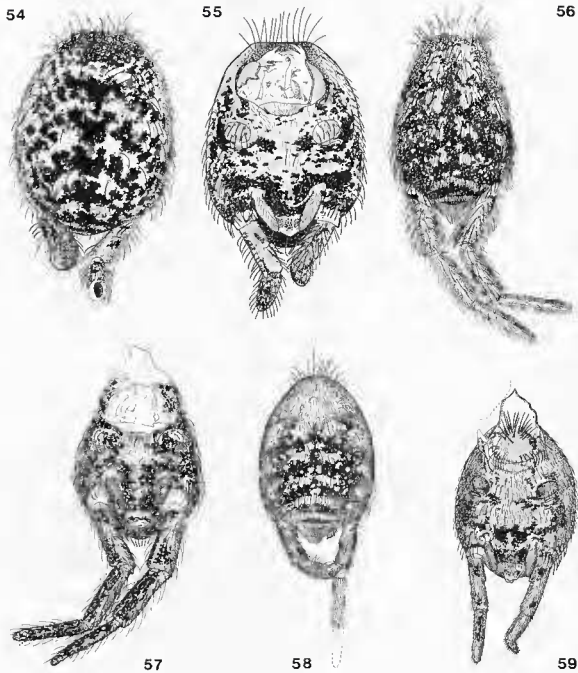
Female. About 10-12 teeth on paired claws of legs I, IV; one tooth on unpaired claw of leg I. Abdomen dorsally pallid with distinct brown spots medially and paired brown marks laterally; legs with light annulations. Two pairs of preening combs on metatarsi I, II. Spermathecae two, one on each side, each a short twisted lobe with short basal lobe on inner edge and directed transversely across base of larger.

Description: holotype female MNHN. Carapace 3.64 long, 3.08 wide. Abdomen 4.19 long, 3.44 wide. Total length, 9.

Colour in alcohol. Carapace orange brown with brown margins and light brown speckling on caput, chelicerae, maxillae and labium orange brown, sternum orange brown with slight brown speckling on margins, coxae and trochantera yellow brown with slight (I, II) to distinct brown (III, IV) area distoventrally, and legs orange brown with light brown annulations proximally and distally on tibiae and metatarsi. Abdomen dorsally red brown with extensive pallid areas forming two very irregular and barely discernible chevrons; ventrally pallid with red brown markings between orange booklung covers and around spinnerets; spinnerets entirely brown, apical PLS missing.

Carapace. With light covering of wavy brown hairs; 3-5 long curved bristles in each of 3 groups along each margin; 4 long setae on clypeal edge. Fovea short, recurved. Clypeus 0.12 wide. One pair of foveal bristles.

Eyes. Group occupies 0.35 of head-width. Eye



FIGS 54-59 - *Caledothete*. Abdomen, female holotype. 54, 55 : *C. carina*; 54 : dorsal view; 55 : ventral view; 56, 57 : *C. aoupinie*; 56 : dorsal view; 57 : ventral view; 58, 59 : *C. tristata*; 58 : dorsal view; 59 : ventral view.

group width, length, 27 : 21. MOQ front width, back width, length, 13 : 20 : 12. AME : ALE : PME : PLE, 5 : 10 : 7 : 8. Eye interspaces : AME-AME, 0.6 ; AME-ALE, 0.4 ; ALE-PLE, 0 ; PME-PME, 2.0 ; PME-PLE, 0.2 ; ALE-ALE, 0.

Chelicerae. With few long and numerous short bristles prodorsally, laterally with band of fine setae. Furrow promargin with 4 large mixed with 11 small teeth, basomesally with 1 moderately large and 3 small teeth and 30-40 granules.

Labium 0.43 long, 0.75 wide. **Maxillae** 1.08 long in front, 1.08 long behind, 0.65 wide. **Sternum** 2.00 long, 1.85 wide.

Legs. All femora with 3-5 long curved setae dorsally.

Spines. Leg 1, fe 0, pa p3w, ti p3w, v5, me v5, ta 0 ; leg 2, fe 0, pa p3w, ti p3, v5, me p3, v5, ta v1 ; leg 3, fe 0, pa p3, r1, ti p3, r2, v5, me p3, r3, v5, ta v2 ; leg 4, fe 0, pa p2, r2, ti p2, r2, v6, me p4, r4, v6, ta v3 ; palp, fe 0, pa p1, ti p1, v7, ta v8. **Metatarsal preening combs** : I of 4-7 setae proventral on I, II, III, retroventral on III, IV, and ventral on I, II.

TABLE II. — Leg measurements of *Caledothele tonta*, holotype female.

	t	II	III	IV	Palp
Femur	2.48	2.40	2.32	2.84	1.84
Patella	1.60	1.52	1.48	1.60	1.12
Tibia	1.60	1.40	1.44	2.08	1.20
Metatarsus	1.52	1.48	2.00	2.64	—
Tarsus	0.72	0.88	0.92	1.12	1.00
Total	7.92	7.68	8.16	10.28	5.16

Claws. 10-12 (I), 8 (IV) teeth in S-shaped row on paired claws, 1 long (I) to 3 long (IV) teeth on third claw ; about 10 teeth on palpal claw.

Trichobothria in two rows, each of 10 for two-thirds of tibiae ; about 7-10 on metatarsi and tarsi in straight row.

Spinnerets. pms 1.00 long, 0.28 wide, 0.93 apart, and about 0.92 of basal pls in diameter. Basal, middle segments of pls, 1.38, 1.18, long, respectively.

Etymology : the specific epithet is derived from the name of the type locality.

Distribution and habitat : known only from rainforest at the type locality, Mt Tonta.

Material examined : only the type.

Caledothele tristata n. sp.
(figs 1, 43 & 58-59 ; table 12)

Type material : holotype ♀ : Table Unio, 700-1000 m, 10.v.1984 (G. MONTEITH, D. COOK), QM s 7128.

Diagnosis : differs from all other species in the relatively short spermathecal stalk with distinct unequal apical division.

Female. About 9 teeth on paired claws of legs I, IV ; no teeth on unpaired claw of leg I. Abdomen dorsally brown with paired pallid spots ; legs with bold distinct annulations. Two pairs of preening combs on metatarsi I, II. Spermathecae two, each a single bifurcated lobe ; inner lobe long thick thumb-like, outer lobe small stumpy-like.

Description : holotype female QM s 7128. Carapace 4.00 long, 3.33 wide. Abdomen 6.08 long, 3.92 wide. Total length, 11.

Colour in alcohol. Carapace light yellow brown with brown band laterally on caput and behind outer corners of eye group and also along posterior margins of carapace ; chelicerae yellow brown, and legs yellow brown with brown annulations proximally and distally on tibiae and metatarsi ; sternum, labium and maxillae yellow brown ; all leg coxae and trochantera concolorous with distal triangular brown area ventrally. Abdomen dorsally brown with large irregular paired areas, 6 pairs discernible possibly one more under damaged (?) arca anteriorly ; ventrally pallid with brown markings laterally, in band between booklungs and between spinnerets ; booklung covers orange with brown markings ; spinnerets pallid, pls with two proximal and distal brown patches on basal article and longitudinal brown band on middle and apical articles.

Carapace. Pilosity : generally with fine brown wavy hairs ; curved hairs on margins ; striae distinct, glabrous ; 2 long bristles on caput margin. Fovea short straight, transverse. Clypeus 0.08 wide. One pair of foveal bristles.

Eyes. Group occupies 0.38 of head-width. Front row procurved; back row recurved. AME not on elevated mound. Eye group front width, back width, length, 42 : 45 : 19. MOQ front width, back width, length, 19 : 30 : 17. AME : ALE : PME : PLE, 9 : 13 : 9 : 11. Eye interspaces : AME-AME, 0.3; AME-ALE, 0.4; ALE-PLE, 0; PME-PME, 1.8; PME-PLE, 0.1; ALE-ALE, 2.1.

Chelicerae. Covered with several long and numerous short curved brown bristles prodorsally, laterally almost glabrous. Furrow prodorsum with 9 large intermixed closely with 7 smaller teeth, basomesally with 3 small teeth (2 moderately large basal) and 15-20 fine pointed teeth.

Labium 0.42 long, 0.96 wide. Labiosternal suture a continuous narrow groove. Maxillae 1.21 long in front, 1.29 long behind, 0.92 wide. Sternum 2.29 long, 2.04 wide. Sigilla all small, oval, marginal.

Legs. Few, if any, spines on leg tarsi; femoral spines weak. Spines on femora, patellae, and tibiae, elongate sinuous; others elongate curved.

Spines. Leg 1, fe d4, pa p3, ti p4, v4, me p1, v3; leg 2, fe d4, pa p4, ti p3, v2, me p3, v5; leg 3, fe 0, pa p4, r2, ti p3, d1, r2, v5, me p3, r3, v5; leg 4, fe 0, pa p2, r2, ti p3, d1, r3, v5, me p3, r3, v5, ta v1; palp, fe 0, pa 0, ti p1, v2w, ta v5. Metatarsal preening combs : 1 of 5-7 fine setae proventral on I, II, retroventral on III, IV.

Claws. 7 (IV) to 9 (I) teeth in S-shaped row on paired claws, no teeth on third claw of legs I, II, 3 long fine teeth on third claw of legs III, IV; 7 teeth on palpal claw.

TABLE 12. — Leg measurements of *Caledothele tristata*, holotype female.

	I	II	III	IV	Palp
Femur	2.58	2.58	2.58	3.17	2.00
Patella	1.58	1.67	1.50	1.83	1.25
Tibia	1.75	1.75	1.75	2.42	1.42
Metatarsus	1.92	2.00	2.58	3.17	—
Tarsus	1.17	1.17	1.42	1.58	1.58
Total	9.00	9.17	9.83	12.17	6.25

Trichobothria in two rows, each of about 11 for two-thirds of tibiae; about 11 on metatarsi in straight row; about 9 filiform in straight row on tarsi.

Spermathecae two, each a single lobe bifurcated in distal half; inner lobe long thick thumb-like, outer lobe small stump-like. Genital region protrudes posteriorly.

Spinnerets. PMS 1.25 long, 0.38 wide, 1.50 apart, and about 0.69 of basal PLS in diameter. Basal, middle, apical, total segments of PLS, 1.04, 1.00, 2.25, 4.29 long, respectively.

Etymology : the specific epithet is an arbitrary combination of letters.

Distribution and habitat : known only from rainforest at the type locality, Mt Table Unio, just north of Col d'Amieu, at an altitude of 700-1000 m.

Material examined : only the type.

Subfamily MASTERIINAE Simon

Genus *MASTERIA* Koch

Masteria Koch, 1873 : 458. Type species by monotypy. *Masteria hirsuta* Koch, 1873; *Accola* Simon, 1889 : 191. Type species by subsequent designation of Simon, 1892. *Accola lucifuga* Simon, 1889; first synonymised by RAVEN, 1979 : 624. *Antrochares* Rainbow, 1898 : 332. Type species by monotypy. *Antrochares macgregori* Rainbow, 1898. First synonymised by RAVEN, 1979 : 624.

Remarks : considering *Masteria* was first described from the island of Ovalau in Fiji, a reasonable hypothesis is that it would occur throughout the Pacific. It is quite common in northern Australia, the Philippines, and central

and South America (RAVEN, 1979), and ROEWER (1963) reported a male from the Caroline Islands. However, this is the first published record of the genus from New Caledonia. Specimens of *Masteria* from New Caledonia initially available were all immature and were taken from Rivière Bleue and Vallée de la To Ndeu. Despite two trips in which I intensively collected from litter, I failed to collect any material of the genus. In one case, I was at the foot of the same tree (Kauri géant, Rivière Bleue) from which one was taken earlier. Clearly, litter is not the microhabitat preferred by *Masteria* here. Judged by Professor FRANZ'

collecting notes, rotting wood and fungus will be more fruitful. New Caledonia, specifically Rivière Bleue, represents the most southerly known limit of the genus anywhere. COYLE (1986) transferred the Chilean *Masteria australis* Mello-Leitão, 1939 to a new genus, *Chilehexops*.

The presence of sessile teeth on the unpaired claw of *M. franzi* and *M. kaltenbachi* requires the removal of one masterline synapomorphy, unpaired claw on common process, from RAVEN'S (1985) cladogram of Dipluridae. The Masteriinae are then defined only by the linear serrula, compact eye group, and reduction of the AME.

Masteria franzi n. sp.

(figs 1, 60-65 & 66-68; table 13)

Type material: holotype ♂: Tiouandé near Hienghène, sifted near foot of limestone rocks in association with highly specialised terricolous fauna and from rotten wood and fungus (*Fomes* sp.), 20°45' S, 165°09' E, I.IX.1970 (H. FRANZ), NHMW.

Diagnosis: differs from males of *M. toddae* in the presence of numerous thorn spines on the retrobasal corner of the palpal tibia, in the smaller tibial megaspines and the presence of a prolateral conical spur and in having sessile teeth in the unpaired claw.

Description: holotype male NHMW. Carapace 1.25 long, 0.97 wide. Abdomen 1.38 long, 0.81 wide. Total length, 2.9. Colour in alcohol entirely yellow brown.

Carapace with 7 long erect black bristles on posterior margin, 1 or 2 on posterior stria ridges, 3-5 in anterior half of margins, 2-3 pairs of fine foveal bristles, few fine bristles on carapace. Fovea small, shallow, open.

Eyes. Group pallid. PME appear reniform. Group occupies 0.37 of head-width. Eye group front width, back width, length, 8 : 10 : 6. ALE : PME : PLE, 8 : 6 : 11. Eye interspaces (as diameters of PME) : PME-PME, 0.5 ; PME-PL, 0 ; ALE-ALE, 0.5.

Chelicerae short rounded with long slender bristles. Furrow promargin with about 8 spaced teeth, basomesally none evident without damaging specimen.

Labium 0.11 long, 0.25 wide. Labiosternal suture a narrow groove. Maxillae 0.30 long in

front, 0.30 long behind, 0.17 wide. Sternum 0.77 long, 0.56 wide.

Legs. Tibia I distally with one dorsal and one prolateral spur and 3 megaspines; dorsal spur a flattened keel; prolateral spur small conical with apical and subapical megaspines (fig. 60).

Spines. Metatarsi I incomplete, tarsi I missing. No spines on femora or leg 2. Leg 1, ti 3 megaspines; leg 3, pa r1, ti p2, d1, r2, v5, me p3, r2, v5; leg 4, pa p1, r1, ti p3, d1, r1, v4, me p3, r4, v5, ta v1. Palp, basal group of 8-10 thorn spines on retrolateral tibia, cymbium with 4-5 distal spines.

TABLE 13. Leg measurements of *Masteria franzi*, holotype male.

	I	II	III	IV	Palp
Femur	0.97	0.83	0.73	0.98	0.66
Patella	0.63	0.47	0.42	0.55	0.39
Tibia	0.89	0.56	0.61	0.86	0.53
Metatarsus	-	0.53	0.59	0.86	-
Tarsus	-	0.44	0.42	0.50	0.34
Total	2.49+	2.83	2.77	3.75	1.92

Claws. About 10 teeth on paired claws of leg IV, six long teeth, sessile on unpaired claw.

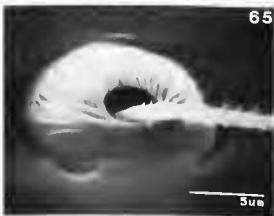
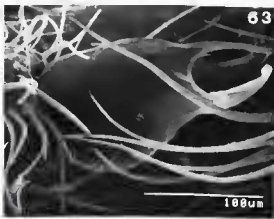
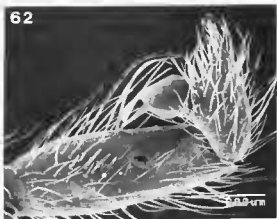
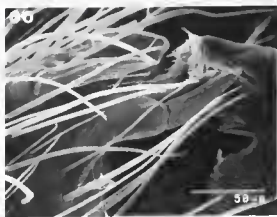
Trichobothria present on tibiae, metatarsi, and tarsi. Bothrial base corrugiform (fig. 65), trichobothria circled with separate filaments. Leg cuticle very finely corrugated. Tarsal organ not evident.

Palp (figs 62-64). Bulb with elongate slender embolus and equally long but broad paraembolic apophysis; cymbium spindle-shaped with 4-5 erect spines apically.

Spinnerets. PMS 0.28 long, 0.05 wide, 0.23 apart, and about 0.43 of basal PLS in diameter. Basal, middle, apical, total segment of PLS, 0.34, 0.31, 0.34, 0.99 long, respectively. Large barrel-shaped spigots (not "pumpkiniform") distally on PMS and on middle and distal segments of PLS. Australotheline crescent present, distinct.

Etymology: the specific epithet is a patronym in honour of Prof. H. FRANZ, the collector.

Distribution and habitat: known only from lowland forest at the type locality, Tiouandé near Hienghène.



FIGS 60-65. — *Mastetia franzi*, holotype male. Scanning electron micrographs. 60 : distal tibia I, and proximal metatarsus, prolateral view; 61 : tarsal claws; 62 : tibia, cymbium, and bulb of palp, retrolateral view; 63 : palpal bulb, ventral view; 64 : apex of paramorphic apophysis (broad) and embolus, retrolateral view; 65 : tibial trichobothria and bothria, dorsal view.

Remarks: *M. franzi* is very similar in palp and tibial spur morphology to *M. toddae* from northern Australia. It differs from the male included in *Masteria hirsuta* by ROEWER (1963) in the presence of a paraembolic apophysis. Its association with specialised fauna suggests why all previous material has been immature. Unlike its sister species, it is not restricted to montane rainforest.

Material examined: only the type.

Masteria kaltenbachi n. sp.

(figs 1 & 69; table 14)

Type material: holotype ♀: Nékliai, just south of village, 21°18' S, 165°10' E, I.VIII.1965 (A. KALTENBACH), NHMW 12 415.

Diagnosis: differs from *M. hirsuta* and *M. toddae* in the presence of spiral ribbing in the outer spermathecal ducts.

Description: holotype female NHMW 12 415. Carapace 1.00 long, 0.73 wide. Abdomen 0.97 long, 0.70 wide. Total length, 2.3. Colour in alcohol entirely pallid yellow.

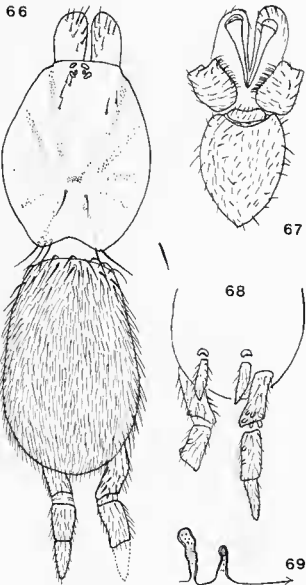
Carapace with 3-5 long bristles on posterior margins; 2-3 bristles in posterior striae; one pair of foveal bristles; 1 pair of bristles behind each PLE. Fovea short, pit-like.

Eyes. Group occupies 0.25 of head-width. Eye group width, length, 15 : 10. AME absent. ALE : PME : PLE, 8 : 4 : 5. Eye interspaces (as diameters of PME) : PME-PME, 1.0; PME-PLE, 0.3; ALE-ALE, 0.3.

Chelicerae geniculate. Furrow promargin with 10 spaced teeth, hasomesally with line of about 6 short teeth.

TABLE 14. — Leg measurements of *Masteria kaltenbachi*, holotype female.

	I	II	III	IV	Palp
Femur	0.77	0.55	0.52	—	0.50
Patella	0.41	0.34	0.31	—	0.34
Tibia	0.47	0.34	0.31	—	0.33
Metatarsus	0.41	0.33	0.39	—	—
Tarsus	0.36	0.33	0.31	—	0.33
Total	2.06	1.89	1.84	—	1.50



FIGS 66-69. *Masteria*. 66-68 : *M. franzi*, holotype male : 66 : carapace, heliocer, and abdomen, dorsal view ; 67 : sternum, maxillae, labium, and chelicerae, ventral view ; 68 : spinnerets, ventral view ; 69 : *M. kaltenbachi*, female holotype, spermathecae.

Labium 0.06 long, 0.17 wide. Maxillae 0.25 long in front, 0.25 long behind, 0.16 wide. Serrula linear. Sternum 0.58 long, 0.50 wide.

Spines. No spines on legs 1, 2, palp or femora III. Leg 4 absent. Leg 3 : pa p1, ti p1, d1, r1, v3, me p2, d1, r2, v2.

Claws. Paired claw (II) with 12-15 long teeth ; unpaired claw (I) with 4 long curved teeth. all

arising from the claw, i.e. sessile. Trichobothria present on tibiae, metatarsi, and tarsi.

Spinnerets. PMS 0.22 long, 0.06 wide, 0.31 apart, and about 0.67 of basal PLS in diameter. Basal, middle, apical, total segments of PLS, 0.23, 0.16, 0.22, 0.61 long, respectively.

Spermathecae. Four, each discharging separately; both lobes straight, inner lobes shorter; outer lobe with distinct circular ribbing for length.

Etymology: the specific epithet is a patronym in honour of Dr A. KALTENBACH, the collector.

Distribution and habitat: known only from lowland forest at the type locality, just south of Nékliai.

Remarks: fresh material of the type-species, *Masteria hirsuta* Koch, from Fiji will be described elsewhere. Its spermathecae consist of four lobes, the outer lobes large and rounded, the inner short and conform; all lobes lack circular ribbing.

Material examined: only the type.

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